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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,547	02/21/2001	Yoshikazu Ichiyama	010133	5622

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EXAMINER

LAM, THANH

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/788,547

Applicant(s)
Ichiyama

Examiner
Thanh Lam

Art Unit
2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 24, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman in view of JP 10-159849 hereinafter '849.

Regarding claims 1 and 6, Hoffman discloses a fluid bearing motor provided with a bearing assembly, the bearing assembly comprising: a shaft (12, fig. 3) formed partly or wholly of a ferromagnetic substance (col. 2, lines 56-57); a substantially solid porous sleeve (10) faced to the shaft with a bearing portion with a minimum gap provided therebetween; and magnetic fluid oil (14) impregnated into the gap and the porous sleeve (10); and, wherein a ferromagnetic substance included in the shaft is locally magnetized to create magnetic flux density gradient (24) that is set at a maximum on the bearing surface of the porous sleeve (10) and decreases gradually as it stays away therefrom (the flux density 24 decreases gradually as it moves along the surface of the sleeve). However, Hoffman does not disclose the shaft magnetized in a direction parallel to the shaft.

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'849 discloses the shaft has a magnetization in a direction parallel (5 fig. 5) to the shaft (A).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the magnetization of the bearing shaft of Hoffman to accommodate the magnetization direction as taught by '849, to provide the bearing with an ease to assembly.

Regarding 2, it is noted that in combination of Hoffman and '849 disclose a boundary of a magnetization-varying portion (at the step portion of the shaft 12) of the shaft is aligned with a line of a flow of the magnetic fluid oil occurring with rotary motion of the sleeve or the shaft.

Regarding 3, it is noted that in combination of Hoffman and '849 disclose the bearing portion has a groove (71) for generating dynamic pressure formed on a surface of the shaft (40), and a magnetization-varying portion is arranged in a position of the shaft that corresponds to the groove.

Regarding claim 4, it is noted that in combination of Hoffman and '849 disclose the magnetic fluid bearing motor as claimed in claim 3, wherein the groove is realized as a herringbone groove (71), and the magnetization-varying portion of the shaft is arranged in a vicinity of both ends of the herringbone groove.

Regarding claim 5, it is noted that in combination of Hoffman and '849 disclose the groove is realized as a spiral groove, and the magnetization-varying portion of the shaft is arranged in a vicinity of an oil admission end of the spiral groove.

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Regarding claim 7, it is noted that in combination of Hoffman and '849 disclose a boundary of a magnetization-varying portion remaining on the surface of the bearing portion of the sleeve is aligned with a line of a flow of the magnetic fluid oil that occurs with rotary motion of the sleeve or the shaft.

Regarding claim 8, it is noted that in combination of Hoffman and '849 disclose the bearing portion has a groove for generating dynamic pressure formed on the surface of the shaft or the sleeve, and a magnetization-varying portion is arranged in a position of the surface of the bearing portion of the sleeve that corresponds to the groove.

Regarding claim 9, it is noted that in combination of Hoffman and '849 disclose the groove is realized as a herringbone groove, and the magnetization-varying portion of the surface of the bearing portion of the sleeve is arranged in a vicinity of both ends of the herringbone groove.

Regarding claim 10, it is noted that in combination of Hoffman and '849 disclose the groove is realized as a spiral groove, and the magnetization-varying portion of the surface of the bearing portion of the sleeve is arranged in a vicinity of an oil admission end of the spiral groove.

Response to Arguments

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3431.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.



Thanh Lam

Patent Examiner

March 13, 2002



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800